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EXAMINER

PEPITONE, MICHAEL F

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

The rejection of claims 1-3, 5, 9-11, 14, 16, 19-20, 22-23, 29-32, 36-38, 40, 42, 45, and 73-74 based on Elspass *et al.* (US 5,807,629) and Patil (US 5,498,673) is maintained for reason of record and following response [see Official Action 9/15/08].

Elspass *et al.* (US '629) discloses a nanocomposite (1:5-7) comprising clay {layered materials, which can be modified with swelling agents (exfoliated)} (2:33-63), and an elastomer comprising copolymers of isobutylene and functionalized paramethyl styrene (2:10-17), wherein the nanocomposite has sufficiently low air permeability to be useful as a tire inner liner (1:60-67). Elspass *et al.* (US '629) discloses a solid rubber is blended with the composite material {clay and isobutylene-functionalized paramethyl styrene nanocomposite} (3:37-46). A masterbatch of the nanocomposite is prepared then blended with a solid rubber (3:60-4:45).

Patil (US '673) discloses copolymers of isoolefins and para-alkylstyrenes (1:5-6) functionalized with an R_4 moiety corresponding to instant groups (I-V) $\{R^1 = h, x = 2-10, y = 0-20\}$ (1:29-2:38). Patil (US '673) disclose a copolymer of isobutylene and para-methylstyrene, which contained 15 wt% of para-methylstyrene and the remainder of isobutylene, wherein the copolymer was functionalized (2:65-4:49) and the functionalized para-methylstyrene was uniformly distributed over the entire molecular weight range (4:37-49). Patil (US '673) suggests that such R_4 groups have particular utility in forming polymer blends (1:58-59).

A person having skill in the art would have found it obvious to utilized functionalized para-methylstyrene-isobutylene copolymers of Patil (US '673) {functionalized with R_4 groups} in the composition of Elspass *et al.* (US '629) {clay and isobutylene-functionalized paramethyl

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styrene nanocomposite}, as such R₄ functionalized para-methylstyrene-isobutylene copolymers have particular utility in forming polymer blends [Elspass *et al.* (US '629) discloses a solid rubber is blended with composite material {clay and isobutylene-functionalized paramethyl styrene nanocomposite} (3:37-46)].

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Patil (US '673) disclose functionalized para-methylstyrene-isobutylene copolymers {functionalized with R₄ groups} that have particular utility in forming polymer blends (1:58-59). Elspass *et al.* (US '629) discloses a solid rubber is blended with a composite material {clay and isobutylene-functionalized paramethyl styrene nanocomposite} (3:37-46). A masterbatch of the nanocomposite is prepared then blended with a solid rubber (3:60-4:45). A

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person having skill in the art would utilize R₄ functionalized para-methylstyrene-isobutylene copolymers in the blending of nanocomposite and rubber of Elspass *et al.* (US '629), since R₄ functionalized para-methylstyrene-isobutylene copolymers have particular utility in forming polymer blends (1:58-59).

Li *et al.* (US '549) was relied on for evidence that layered clay materials, when intercalated by treatment with swelling agents, affords a layered silicate that can more readily sorb polymeric material between the layers, thereby providing a uniform dispersion of the exfoliated layers within the polymer matrix (6:25-7:49).

The nonstatutory obviousness-type double patenting of claims 1-3,5,9-11,14,16,19,20,22-23,29-32,36-38,40,42,45, and 73-74 over claims 1-3, 5-6, 8, 10-11, 13, 16, 19-20, 22-23, 29-30, 32, 34-37, 39, 42, 45 of copending Application No. 10/518,193 is maintained.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

MFP
21-November-08